

Extended Abstract

MedSmart Exercise Book: Learn About Medicines While You Practice

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ABSTRACT

The MedSmart Exercise Book was developed to complement the Young Doctor Club (YDC) module's Know Your Medicine chapter, based on feedback from eleven primary school teachers with at least one year of YDC experience. A 45-minute focus group discussion (FGD) using the YDC module. The discussion followed a semi-structured interview guide, was audio-recorded, transcribed verbatim, and then thematically analysed using Nvivo application. Three key areas were identified for the exercise book's development: engaging content, universal accessibility, and time constraints. The Canva-designed exercise book covers three essential topics—What is Medicine, the 5R Concept, and Medicine Handling—within eleven pages, incorporating interactive elements like 'Match the Item,' 'Crossword Puzzle,' and 'Fill in the Spaces' to enhance student engagement. To improve accessibility, the book is available online, allowing students to test their understanding at their own pace, while attached answers support knowledge reinforcement. This digital format also addresses teachers' concerns regarding time constraints and access beyond extracurricular participants. The MedSmart Exercise Book has commercialisation potential due to its adaptability in classrooms and relevance to health education. Future expansions may explore licensing, subscriptions, and collaborations with government and non-government institutions to promote quality medicine use among schoolchildren.

Keywords: exercise guide, Know Your Medicine, medicine use, students, teacher

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1.0 Introduction

The Know Your Medicine (KYM) program was introduced in 2009 to support the fourth component of Malaysian National Medicines Policy (Dasar Ubat Nasional) focusing on the “quality use of medicines” (1). The main objective mainly stresses on ensuring that medicines are used rationally for better health outcomes (2). Multiple strategies are used to achieve the goals; among them are education, training, and providing accurate medicine information to the consumers. However, the 2015 National Survey on The Use of Medicine III by Malaysian Consumer (NSUM III) reported that despite the knowledge about the quality use of medicine is still lacking despite six years of the KYM program’s implementation, public knowledge about the quality use of medicines remains insufficient (3).

The KYM modules, which include topics such as “What is Medicine?” and “5R Use of Medicine” have been well-established and serve as key resources for public education. These topics have also been integrated into the Young Doctor Club (Kelab Doktor Muda) curriculum, a national extracurricular program in primary and secondary schools aimed at promoting healthy behaviors among students (4). While Harun et al. (5) reported that the Young Doctor Club module has successfully increased health knowledge among students, exploratory feedback from club advisors is essential to assess the module's practicality and its implementation during club events. A qualitative exploratory study was conducted among schoolteachers who act as Young Doctor Club's club advisor in primary schools around Kuala Selangor, Malaysia. The key concerns raised included the need for more engaging content, broader accessibility for students, and time limitations during club activities. To address these challenges, a complementary exercise module is required to enhance engagement,

ensure accessibility, and better fit within the time constraints of extracurricular programs.

2.0 Innovation

The MedSmart Exercise Book represents an innovative health education that is interactive and engaging for school students. By integrating the feedback from the schoolteachers, the content was made attractive and adaptable to diverse learning environments while also being personalised to address the educational needs of primary school children in Malaysia. The main highlights of the innovation are the engaging and interactive content such as the incorporation of activities such as 'Drag the Sticker into Correct Boxes' 'Crossword Puzzle,' and 'Fill in the Spaces'. Despite simplifying the topics for young minds to grasp complex ideas, it could help promote active learning and help the students retain key concepts about medicine. Another main highlight is its universal online accessibility, which could benefit broader users from the same age category by allowing them to learn and test their knowledge of medicine use.

3.0 Uniqueness

The MedSmart Exercise Book is a sustainable and relevant educational aid that helps in bridging the gaps of traditional health educational deliveries and modern teaching and learning curriculum in today’s world. It integrates seamlessly with the existing Young Doctor Club curriculum on Know Your medicine topic, reinforcing quality medicine use knowledge among primary school students. The exercise book's design is unique as its development is based on direct feedback from educators, ensuring it meets classroom needs. Its interactive design is unique as it integrates colourful images and elements with interactive activities such as 'Match the Item,' 'Crossword Puzzle,' and 'Fill in the Spaces'

that promotes active participation and self-directed learning among students. Furthermore, accessibility through online platforms allows students to engage with the material at their own pace.



Figure 1: MedSmart Exercise Book.

4.0 Commercialisation Potential

The current MedSmart Exercise Book that complements Chapter 11 of Know Your Medicine in Young Doctor Club only will be made free of charge to any student or institution to use for learning purposes. However, the exercise book chapters will further develop to allow more diverse KYM topics such as “Antibiotic Use and

Resistance” and “Medicine Use for Paediatric”. Due to its adaptability and appeal in education, it could be licensed for use to the Ministry of Health or Ministry of Education. The online format opens to subscription-based features for each topic to be unlocked by users for a small fee. Partnerships with local publishers and health NGOs could also help distribute the exercise book nationwide. Given their scalability in promoting health education in schools and beyond, these promising avenues provide opportunities to generate modest profits.

5.0 Impact on Quintuple Helix

The MedSmart Exercise Book could impact society by increasing knowledge, awareness, and practices of quality medicine use, encompassing its effective and safe use. This would promote healthy living among young people, thus improving their development and long-term health. In schools, this exercise book offers a modern, 21st century approach to learning among young students. Its interactive features and digitalised platform enhance accessibility, addressing gaps in traditional classrooms where health-related subjects struggle with time constraints and outdated teaching methodologies. The exercise book aligns with the government’s efforts to promote healthy behavior among students through the Young Doctor Club. It allows for self-assessment and reinforces knowledge gained from Chapter 11: 'Know Your Medicine' in the Young Doctor Club module. Furthermore, this innovation creates partnership opportunities with educational and healthcare organisations that aim to improve medicine literacy among school students. Lastly, digitalised features reduce paper usage while the content on proper medicine handling, storage, and disposal helps raise awareness about environmental protection and safe medicine disposal.

6.0 Conclusion

The MedSmart Exercise Book represents significant advancement in health education for young generations by offering an interactive, engaging and accessible tool to improve medicine literacy among Malaysian students. Its format and design address classroom challenges, thus making it usable beyond traditional educational settings. This exercise book has potential to positively impact public health, and its scalability opens up for global health education initiatives.

Authorship contribution statement

KJ: Data analysis, Methodology, Formal analysis. **NSH:** Visualisation, Methodology, Writing–original draft, Writing – review & editing. **IAZ,** **ZMN:** Visualization, Resources, Draft corrections. **HHZ:** Supervision, Funding acquisition, Writing – review & editing.

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Conflict of Interest

The authors declared that they have no conflicts of interest to disclose.

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